

WHAT IS CLAIMED IS:

1. A bonding structure of plastic parts comprising:

a first plastic part in which a wiring board connected to a connection terminal is provided by insert-molding, said
5 first plastic part having a holding hole for holding said wiring board;

a second plastic part bonded to said first plastic part;

wherein a surrounding of said holding hole provided in said first plastic part and a bonding face of said second
10 plastic part to which said first plastic part is bonded are bonded to each other.

2. A bonding structure of plastic parts comprising:

a first plastic part in which a wiring board connected
15 to a connection terminal is provided by insert-molding;

a second plastic part bonded to said first plastic part, having a terminal introducing hole in which said connection terminal is introduced;

wherein a surrounding of said connection terminal of said
20 first plastic part and a surrounding of said terminal introducing hole of said second plastic part are bonded to each other.

3. A bonding structure of plastic parts comprising:

25 a first plastic part in which a wiring board connected

to a connection terminal is provided by insert-molding, said first plastic part having a holding hole for holding said wiring board;

5 a second plastic part bonded to said first plastic part, having a terminal introducing hole in which said connection terminal is introduced;

wherein a surrounding of said holding hole provided in said first plastic part and a bonding face of said second plastic part to which said first plastic part is bonded are
10 bonded to each other, and

a surrounding of said connection terminal of said first plastic part and a surrounding of said terminal introducing hole of said second plastic part are bonded to each other.

15 4. The bonding structure according to claim 1, wherein said bonding structure further comprises a third plastic part in which another wiring board is provided by insert-molding, said third plastic part having another holding hole for holding said another wiring board, and

20 a surrounding of said another holding hole of said third plastic part and a bonding face of said first plastic part opposed to said another holding hole are bonded to each other so that said third plastic part is stacked to said first plastic part.

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5. The bonding structure according to claim 2, wherein said bonding structure further comprises a third plastic part in which another wiring board is provided by insert-molding, said third plastic part having another holding hole for holding said
5 another wiring board, and

a surrounding of said another holding hole of said third plastic part and a bonding face of said first plastic part opposed to said another holding hole are bonded to each other so that said third plastic part is stacked to said first plastic
10 part.

6. The bonding structure according to claim 3, wherein said bonding structure further comprises a third plastic part in which another wiring board is provided by insert-molding, said
15 third plastic part having another holding hole for holding said another wiring board, and

a surrounding of said another holding hole of said third plastic part and a bonding face of said first plastic part opposed to said another holding hole are bonded to each other
20 so that said third plastic part is stacked to said first plastic part.

7. A method of bonding a first plastic part in which a wiring board connected to a connection terminal is provided by
25 insert-molding to a second plastic part, the method comprising

the steps of:

providing a hole side projected portion at either one of a surrounding of a holding hole for holding said wiring board provided in said first plastic part and a part of said second
5 plastic part which is opposed to said surrounding of said holding hole;

abutting said hole side projected portion with a bonding face of another of said surrounding of said holding hole and said part of said second plastic part;

10 applying an ultrasonic wave to a bonding portion of said first and second plastic parts so as to melt said hole side projected portion; and

bonding said surrounding portion of said holding hole and said part of said second plastic part to each other.

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8. A method of bonding a first plastic part in which a wiring board connected to a connection terminal is provided by insert-molding to a second plastic part having a terminal introducing hole in which said connection terminal is

20 introduced, the method comprising the steps of:

providing a terminal side projected portion at either one of a surrounding of said connection terminal in said first plastic part and a surrounding of said terminal introducing hole in said second plastic part which is opposed to said
25 surrounding of said connection terminal;

abutting said terminal side projected portion with a bonding face of another of said surrounding of said connection terminal and said surrounding of said terminal introducing hole;

5 applying an ultrasonic wave to a bonding portion of said first and second plastic parts so as to melt said terminal side projected portion; and

 bonding said surrounding portion of said connection terminal and said surrounding of said terminal introducing
10 hole to each other.

9. A method of bonding a first plastic part in which a wiring board connected to a connection terminal is provided by insert-molding to a second plastic part having a terminal
15 introducing hole in which said connection terminal is introduced, the method comprising the steps of:

 providing a hole side projected portion at either one of a surrounding of a holding hole for holding said wiring board provided in said first plastic part and a part of said second
20 plastic part which is opposed to said surrounding of said holding hole, and a terminal side projected portion at either one of a surrounding of said connection terminal in said first plastic part and a surrounding of said terminal introducing hole in said second plastic part which is opposed to said
25 surrounding of said connection terminal;

abutting said hole side projected portion with a bonding face of another of said surrounding of said holding hole and said part of said second plastic part, and said terminal side projected portion with a bonding face of another of said surrounding of said connection terminal and said surrounding of said terminal introducing hole, respectively;

applying an ultrasonic wave to bonding portions of said first and second plastic parts so as to melt said hole side projected portion and said terminal side projected portion; and

bonding said surrounding portion of said holding hole to said part of said second plastic part, and said surrounding portion of said connection terminal to said surrounding of said terminal introducing hole, respectively.

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10. The method of bonding the plastic parts according to Claim 7, further comprising:

providing a third plastic part so that a hole side projected portion are provided at either one of a surrounding of a holding hole for holding a wiring board provided in said third plastic part and a part of said first plastic part which is opposed to said surrounding of said holding hole;

stacking said third plastic part to said first plastic part;

applying an ultra sonic wave to bonding portions of said

first plastic part and the third plastic part so as to melt the hole side projected portion; and

bonding said surrounding portion of said holding hole provided in said third plastic part to said first plastic part.

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11. The method of bonding the plastic parts according to Claim 8, further comprising:

providing a third plastic part so that a hole side projected portion are provided at either one of a surrounding
10 of a holding hole for holding a wiring board provided in said third plastic part and a part of said first plastic part which is opposed to said surrounding of said holding hole;

stacking said third plastic part to said first plastic part;

15 applying an ultra sonic wave to bonding portions of said first plastic part and the third plastic part so as to melt the hole side projected portion; and

bonding said surrounding portion of said holding hole provided in said third plastic part to said first plastic part.

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12. The method of bonding the plastic parts according to Claim 9, further comprising:

providing a third plastic part so that a hole side projected portion are provided at either one of a surrounding
25 of a holding hole for holding a wiring board provided in said

third plastic part and a part of said first plastic part which is opposed to said surrounding of said holding hole;

stacking said third plastic part to said first plastic part;

5 applying an ultra sonic wave to bonding portions of said first plastic part and the third plastic part so as to melt the hole side projected portion; and

bonding said surrounding portion of said holding hole provided in said third plastic part to said first plastic part.

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13. The method of bonding the plastic parts according to Claim 8, wherein a terminal side projected portion is provided at the surrounding of said connection terminal in said first plastic part and constituted by a shape of a wedge capable of
15 being brought into contact with a peripheral edge of said connection terminal introducing hole in said second plastic part.

14. The method of bonding the plastic parts according to
20 Claim 9, wherein a terminal side projected portion is provided at the surrounding of said connection terminal in said first plastic part and constituted by a shape of a wedge capable of being brought into contact with a peripheral edge of said connection terminal introducing hole in said second plastic
25 part.

15. The method of bonding the plastic parts according to Claim 11, wherein a terminal side projected portion is provided at the surrounding of said connection terminal in said first plastic part and constituted by a shape of a wedge capable of being brought into contact with a peripheral edge of said connection terminal introducing hole in said second plastic part.

10 16. The bonding structure according to claim 1, wherein an electric wire connected to the wiring board is further insert-molded to the first plastic part.

15 17. The method of bonding the plastic parts according to Claim 7, wherein an electric wire connected to the wiring board is further insert-molded to the first plastic part.

18. The method of bonding the plastic parts according to Claim 8, wherein an electric wire connected to the wiring board is further insert-molded to the first plastic part.

19. The method of bonding the plastic parts according to Claim 9, wherein an electric wire connected to the wiring board is further insert-molded to the first plastic part.